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10/796,227	03/09/2004	Craig A. Osterday	DP-305346	2169

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EXAMINER

KRAMER, DEVON C

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/796,227

Applicant(s)

OSTERDAY ET AL.

Examiner

Devon C Kramer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 5-10, 13 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3-9-04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2) Claims 1-2 and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Carre et al (4784244).

In re claims 1 and 11, Carre et al provides a disc brake assembly for an automotive vehicle, comprising: a controller (24), a hub (attached to elements 1a, 1b) rotatable about an axis; at least a pair of circumferentially extending brake discs (1a, 1b) supported on said hub for rotation therewith and for axial sliding movement relative to said hub along said axis (inherent to the design of these particular disc brakes) and extending radially outwardly of said hub and having opposite sides presenting braking surfaces; a non-rotatable support structure (3); a plurality of non-rotatable brake pads (4a-c) having spaced ends in the circumferential direction of said brake discs friction elements supported by said non-rotatable support structure for relative axial movement into and out of frictional braking engagement with said braking surfaces, a piston (5) moveable from an unactuated position to an actuated position into engagement with an adjacent one of said non-rotatable brake pads to effect said sliding movement of said plurality of brake pads and said brake discs; and a primary electric actuator (8) mounted on said non-rotatable support structure adjacent at least one of said plurality of brake

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pads and operative when actuated to move said piston to an actuated position and to slide said plurality of brake pads and said brake discs into said frictional braking engagement with one another.

In re claims 2 and 12, see element 8.

***Claim Rejections - 35 USC § 103***

3) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4) Claims 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carre et al (4784244) in view of Drennen et al (6412610).

Carre et al is silent to what voltage the motor operates on. Most vehicles utilize a 12-volt system.

Drennen et al teaches the use of a motor running on 12 volts. (col. 4 lines 12-13)

It would have been obvious to one of ordinary skill in the art at the time of the invention to operate the motor of Carre et al on 12 volts as taught by Drennen et al merely as a design choice and to utilize the devices use in most vehicles.

5) Claims 1-2, 4 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamasho et al (6397981) in view of Carre et al (4784244).

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In re claims 1 and 11, Tamasho et al teaches a disc brake assembly comprising a hub (attached to element 7) rotatable about an axis; a controller (24), a circumferentially extending brake disc (7) supported on said hub for rotation therewith and extending radially outwardly of said hub and having opposite sides presenting braking surfaces; a non-rotatable support structure (1); a plurality of non-rotatable brake pads (6a, b) having spaced ends in the circumferential direction of said brake discs friction elements supported by said non-rotatable support structure for relative axial movement into and out of frictional braking engagement with said braking surfaces, a piston (2) moveable from an un-actuated position to an actuated position into engagement with an adjacent one of said non-rotatable brake pads to effect said sliding movement of said plurality of brake pads and said brake discs; and a primary electric actuator (11) mounted on said non-rotatable support structure adjacent at least one of said plurality of brake pads and operative when actuated to move said piston to an actuated position and to slide said plurality of brake pads and said brake discs into said frictional braking engagement with one another.

Tamasho et al lacks the multi-disc arrangement claimed. Instead Tamasho et al teaches actuating a single disc.

Carre et al teaches the disc and pad arrangement claimed.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the pad/ disc arrangement of Tamasho et al with the pad/disc arrangement of Carre et al merely to create more braking surface area and increase the braking force exerted.

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In re claims 2 and 12, see element 11 of Tamasho.

In re claim 4, Tomasho teaches an arrangement where the piston (2) has a bore (figure 2) and the primary electric actuator comprises a screw portion (5) rotatable about an axis when the primary electric actuator is actuated, the screw portion received in at least a part of the bore of the piston to effect movement of the piston.

6) Claims 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamasho et al (6397981) in view of Carre et al (4784244) and further in view of Drennen et al (6412610).

Both Tamasho and Carre et al are silent to what voltage the motor operates on. Most vehicles utilize a 12-volt system.

Drennen et al teaches the use of a motor running on 12 volts. (col. 4 lines 12-13)

It would have been obvious to one of ordinary skill in the art at the time of the invention to operate the motor of Tomasho et al as modified by Carre et al on 12 volts as taught by Drennen et al merely as a design choice and to utilize the devices use in most vehicles.

#### ***Allowable Subject Matter***

7) Claims 5-10 and 13-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***


8) The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hayes, Bunker, and Scott all teach brake systems operated by electric motors.

9) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devon C Kramer whose telephone number is 703-305-0839. The examiner can normally be reached on Mon-Fri 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DK

  
11/12/04